DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on March 21, 2008 has been entered.

Acknowledgement of Applicant's Amendments

2. The amendments made in claims 1, 4 and 23 in the Amendment filed March 21, 2008 (Amdt. D) have been received and considered by Examiner.

3. New claims 25-27 presented in Amdt. D have been received and considered by Examiner.

Claim Rejections - 35 USC § 103

4. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

5. Claims 1, 3, 4 and 19-27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Stone et al. in view of Carden, Jr. et al.

In regard to independent claim 1, Stone et al. teach a multi-layer hose (balloon sheath, item 40) comprising an opaque, extrudable first layer (item 42), an opaque, extrudable second layer (item 44) connected to the first layer (col. 5, lines 29-32 and Fig. 2) and more than one marking sections that are arranged between the first layer and the second layer (radiopaque marker, col. 5, lines 43-50) and that are adapted to be read making use of X-rays (since the

marking sections are radiopaque). The first and second layers of Stone et al. are opaque because the materials of the layer are polymeric materials that are not disclosed as transparent (any layer that is not transparent has some degree of opacity). Since the marking sections (radiopaque marker, col. 5, lines 43-50) are adapted to be read making use of X-rays (since the marking sections are radiopaque), at least one marking section can be read when the hose has been divided into sections. The first and second layers of Stone et al. are extrudable because Stone et al. teach that the first layer (item 42) is formed of an elastic material such as latex or silicone (col. 5, lines 51-57), both of which are extrudable as evidenced by col. 21, lines 13-21 of U.S. 5,928,200 to Thorne et al., and that the second layer (item 44) is formed of such materials as PET and nylon, both of which are extrudable as evidenced by col. 3, lines 8-12 of U.S. 6,443,925 to Schaible et al. the recitations "constructed to allow… during manufacturing of the hose" (lines 1-2) and "to determine the characteristic… during manufacturing of the hose" (lines 11-13) are intended use phrases that have not been given patentable weight, since a recitation with respect to the manner in which a claimed article is intended to be employed does not differentiate the claimed article from a prior art article satisfying the claimed structural limitations.

The recitation "each marking section comprising more than one letter and/or more than one number arranged in an order that indicates a characteristic of the hose" is a printed matter limitation that has not been given patentable weight based upon the guidelines set forth in MPEP 2112.01 III:

> III. PRODUCT CLAIMS - NONFUNCTIONAL PRINTED MATTER DOES NOT DISTINGUISH CLAIMED PRODUCT FROM OTHERWISE IDENTICAL PRIOR ART PRODUCT

> Where the only difference between a prior art product and a claimed product is printed matter that is not functionally related to the product, the content of the printed matter will not distinguish the claimed product from the prior art. *In re Ngai*, **>367 F.3d 1336, 1339, 70 USPQ2d 1862, 1864 (Fed. Cir. 2004)< (Claim at issue was a kit requiring instructions and a buffer agent. The Federal Circuit held that the claim was anticipated by a prior art reference that taught a kit that included instructions and a buffer agent, even though the content of the instructions differed.). See also *In re Gulack*, 703 F.2d 1381, 1385-86, 217 USPQ 401, 404 (Fed. Cir. 1983)("Where the printed matter is not functionally related to the substrate, the printed matter will not distinguish the invention from the prior art in terms of patentability .... [T]he critical question is whether there exists any new and unobvious functional relationship between the printed matter and the substrate.").
>
> MPEP 2112.01 III.

The actual form of the markings does not define or contribute to the function of the device. The recitation "each marking section comprising more than one letter and/or more than one number" does not recite a new and unobvious functional relationship between the printed matter and the substrate; therefore, the printed matter recitation "each marking section comprising more than one letter and/or more than one number" bears no patentable weight. *In re Gulack*. Furthermore, the fact that the claims fail to specify which languages, which numbering systems and/or code equivalents (Morse code, Braille, bar, etc…), if any, fall within the scope of the recitation "each marking section comprising more than one letter and/or more than one

number" further supports the fact that the content/shape of the markings is not germane to the function of the device and therefore that these shape/content features bear no patentable weight.

Stone et al. teach that suitable materials for the markers are platinum and gold (col. 4, lines 51-57). Stone et al. teach that the marker bands enable visualization of the axial position of the sheath relative to other radiopaque structures (col. 5, lines 47-50).

Stone et al. fail to explicitly teach that the radiopaque markers are provided in a longitudinally spaced relationship with one another in a recurring mode of arrangement.

Carden, Jr. et al. disclose an implantable biomedical plastic strand (item 900, Fig. 11) that comprises bands of an X-ray absorbing material such as gold or platinum as radiopaque markers that are provided in a longitudinally spaced relationship with one another in a recurring mode of arrangement (Fig. 11 and col. 20, lines 30-35 and col. 21, lines 14-26). Therefore, since Stone et al. teach that the marker bands enable visualization of the axial position of the sheath relative to other radiopaque structures (col. 5, lines 47-50), it would have been obvious to one of ordinary skill in the art at the time the invention was made to have applied the radiopaque bands of Stone et al. in a longitudinally spaced relationship with one another in a recurring mode of arrangement along the hose of Stone et al. in order to enable a healthcare worker to precisely visualize the location of the hose within the body and of particular portions of the hose along its length (relative to other radiopaque structures as taught by Stone et al.) since it is well known to provide a medical implant with radiopaque markers in a longitudinally spaced relationship with one another in a recurring mode of arrangement for visualization of the device as taught by Carden, Jr. et al.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have applied the radiopaque bands of Stone et al. in a longitudinally spaced relationship with one another in a recurring mode of arrangement along the hose of Stone et al. in order to enable a healthcare worker to precisely visualize the location of the hose within the body and of particular portions of the hose along its length since it is well known to provide a medical implant with radiopaque markers in a longitudinally spaced relationship with one another in a recurring mode of arrangement for visualization of the device as taught by Carden, Jr. et al.

In regard to claim 3, Stone et al. teach that the first layer (item 42) is formed of an elastomer such as latex or silicone (col. 5, lines 51-57).

In regard to claims 19 and 20, the recitations "the characteristic of the hose indicated by the marking sections is a date or a production number" of claim 19 and "the characteristic of the hose indicated by the marking sections is a material" of claim 20 are printed matter limitations that have not been given patentable weight based upon the guidelines set forth in MPEP 2112.01 III, including the *In re Gulack* holding, as discussed above in regard to claim 1.

In regard to independent claim 4, Stone et al. teach a multi-layer hose (balloon sheath, item 40) comprising three layers (col. 5, lines 32-36), where one of the two layers that are inside of the outer layer corresponds to the claimed inner layer (although the layer that corresponds to the inner layer is not explicitly taught as comprising rubber: see remainder of rejection). Stone et al. teach that the multi-layer hose comprises an outer layer (item 42) that is on (i.e. outside of, and connected to) the inner layer (col. 5, lines 29-36 and Fig. 2) and more than one marking sections (radiopaque marker, col. 5, lines 43-50) that are adapted to be read making use of X-

rays (since the marking sections are radiopaque). Stone et al. teach that the outer layer (item 42) is made of rubber (col. 5, lines 51-57 and 32-36: elastomer such as latex or silicone). The first and second layers of Stone et al. are opaque because the materials of the layer are polymeric materials that are not disclosed as transparent (any layer that is not transparent has some degree of opacity). Since the marking sections (radiopaque marker, col. 5, lines 43-50) are adapted to be read making use of X-rays (since the marking sections are radiopaque), at least one marking section can be read when the hose has been divided into sections. The layers of Stone et al. meet the structural limitation recited by "extruded" because the recitation "extruded", when used to describe layers, does not recite any additional structure over that recited by "layer".

The recitation "each first marking section comprising more than one letter and/or more than one number arranged in an order that indicates a characteristic of the hose" (lines 8-10) is a printed matter recitation that has not been given patentable weight based upon the guidelines set forth in MPEP 2112.01 III:

> III. PRODUCT CLAIMS - NONFUNCTIONAL PRINTED MATTER DOES NOT DISTINGUISH CLAIMED PRODUCT FROM OTHERWISE IDENTICAL PRIOR ART PRODUCT
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> Where the only difference between a prior art product and a claimed product is printed matter that is not functionally related to the product, the content of the printed matter will not distinguish the claimed product from the prior art. *In re Ngai*, **>367 F.3d 1336, 1339, 70 USPQ2d 1862, 1864 (Fed. Cir. 2004)< (Claim at issue was a kit requiring instructions and a buffer agent. The Federal Circuit held that the claim was anticipated by a prior art reference that taught a kit that included instructions and a buffer agent, even

though the content of the instructions differed.). See also *In re Gulack*, 703 F.2d 1381, 1385-86, 217 USPQ 401, 404 (Fed. Cir. 1983)("Where the printed matter is not functionally related to the substrate, the printed matter will not distinguish the invention from the prior art in terms of patentability .... [T]he critical question is whether there exists any new and unobvious functional relationship between the printed matter and the substrate.").

MPEP 2112.01 III.

The actual form of the markings does not define or contribute to the function of the device. The recitation "each marking section comprising more than one letter and/or more than one number" does not recite a new and unobvious functional relationship between the printed matter and the substrate; therefore, the printed matter recitation "each marking section comprising more than one letter and/or more than one number" bears no patentable weight. *In re Gulack.* Furthermore, the fact that the claims fail to specify which languages, which numbering systems and/or code equivalents (Morse code, Braille, bar, etc…), if any, fall within the scope of the recitation "each marking section comprising more than one letter and/or more than one number" further supports the fact that the content/shape of the markings is not germane to the function of the device and therefore that these shape/content features bear no patentable weight.

The recitations "constructed to allow… during manufacturing of the house [sic]" (lines 1-2) and "to determine the characteristic… during manufacturing of the hose" (lines 10-12) are intended use phrases that have not been given patentable weight, since a recitation with respect to the manner in which a claimed article is intended to be employed does not differentiate the claimed article from a prior art article satisfying the claimed structural limitations.

The recitation "fuel hose for a motor vehicle" is an intended use phrase that has not been given patentable weight, since a recitation with respect to the manner in which a claimed article is intended to be employed does not differentiate the claimed article from a prior art article satisfying the claimed structural limitations.

Stone et al. teach that suitable materials for the markers are platinum and gold (col. 4, lines 51-57). Stone et al. teach that the marker bands enable visualization of the axial position of the sheath relative to other radiopaque structures, and that the markers are placed between the two layers of the two-layer embodiment of the invention (col. 5, lines 45-50).

Stone et al. fail to explicitly teach that the layer that corresponds to the inner layer (one of the two layers that are inside of the outer layer) is made of rubber and that the radiopaque markers are arranged in a longitudinally spaced relationship with one another in a recurring mode of arrangement.

However, since Stone et al. teach that the hose may have three or more layers (col. 5, lines 32-36) and that the outer layer 42 comprises a rubber (col. 5, lines 51-57 and 32-36: elastomer such as latex or silicone), one of ordinary skill in the art would have recognized to have used an elastomeric material as the material of the layer that is in contact with the outer layer 42 of a three-layer hose of Stone et al. (or of a hose having four or more layers, col. 5, lines 32-36) since elastomeric material is a well known material for use as layers of a hose, particularly the outer layer or layers (the layers of the outer sleeve of Stone et al., col. 5, lines 51-57 and 32-36) of a hose as taught by Stone et al.

Furthermore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have inserted the marker bands between the outer layer of the three or

more layer hose and the layer that is in contact with the outer layer of the three or more layer hose of Stone et al. since the markers are placed between the two layers of the two-layer embodiment of the invention (col. 5, lines 45-50), and since the markers would perform the equivalent function of enabling a medical professional to locate the position of the tube within the body with X-rays with the bands in the position identified above (between the two outermost layers) or in the position/s between other pairs of layers that are in contact with each other.

Furthermore, Carden, Jr. et al. disclose an implantable biomedical plastic strand (item 900, Fig. 11) that comprises bands of an X-ray absorbing material such as gold or platinum as radiopaque markers that are provided in a longitudinally spaced relationship with one another in a recurring mode of arrangement (Fig. 11 and col. 20, lines 30-35 and col. 21, lines 14-26). Therefore, since Stone et al. teach that the marker bands enable visualization of the axial position of the sheath relative to other radiopaque structures (col. 5, lines 47-50), one of ordinary skill in the art would have recognized to have applied the radiopaque bands of Stone et al. in a longitudinally spaced relationship with one another in a recurring mode of arrangement along the hose of Stone et al. in order to enable a healthcare worker to precisely visualize the location of the hose within the body and of particular portions of the hose along its length (relative to other radiopaque structures as taught by Stone et al.) since it is well known to provide a medical implant with radiopaque markers in a longitudinally spaced relationship with one another in a recurring mode of arrangement for visualization of the device as taught by Carden, Jr. et al.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have used an elastomeric material as the material of the layer that is in contact with the outer layer 42 of a three-layer hose of Stone et al. (or of a hose having four or more layers,

col. 5, lines 32-36) since elastomeric material is a well known material for use as layers of a hose, particularly the outer layer or layers (the layers of the outer sleeve of Stone et al., col. 5, lines 51-57 and 32-36) of a hose as taught by Stone et al. and to have applied the radiopaque bands of Stone et al. in a longitudinally spaced relationship with one another in a recurring mode of arrangement along the hose of Stone et al. in order to enable a healthcare worker to precisely visualize the location of the hose within the body and of particular portions of the hose along its length since it is well known to provide a medical implant with radiopaque markers in a longitudinally spaced relationship with one another in a recurring mode of arrangement for visualization of the device as taught by Carden, Jr. et al.

In regard to claim 21, Stone et al. and Carden, Jr. et al. teach the hose as discussed above in regard to claim 4.

Stone et al. and Carden, Jr. et al. fail to teach that the hose comprises a second outer layer made of rubber as recited in claim 21 where marking sections as recited in claim 4 are also located between the first outer layer and the second outer layer.

However, since Stone et al. teach that the hose may have three or more layers (col. 5, lines 32-36) and that the outer layer 42 comprises a rubber (col. 5, lines 51-57 and 32-36: elastomer such as latex or silicone), one of ordinary skill in the art would have recognized to have added an additional outer layer comprising an elastomeric material (for example, as the outermost layer of the hose) since hoses may have more than three layers are well known in the art as taught by Stone et al., and since it is well known to use a layer comprising an elastomeric material as the outer layer of a hose in the art as taught by Stone et al.

Furthermore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have inserted the marker bands between the first and second outer layers, in addition to between the first outer layer and the layer that is in contact with the first outer layer since the markers are placed between the two layers of the two-layer embodiment of the invention (col. 5, lines 45-50), and since the markers would perform the equivalent function of enabling a medical professional to locate the position of the tube within the body with X-rays with the bands in the position identified above (between the two outermost layers) or in the position/s between other pairs of layers that are in contact with each other, and would further assist with pinpointing the location of the tube within the body due to the additional markers and due to the differences in locations of the markers along the radial direction of the tube (since the markers are located between two different pairs of layers).

In regard to claim 22, Stone et al. and Carden, Jr. et al. teach the hose as discussed above in regard to claim 4.

The recitation of claim 22 is a printed matter recitation that has not been given patentable weight based upon the guidelines set forth in MPEP 2112.01 III, as discussed above in this Office Action in regard to claim 4.

In regard to independent claim 23, Stone et al. teach a multi-layer hose (balloon sheath, item 40) consisting of an opaque, first layer (item 42), an opaque, second layer (item 44) connected to the first layer (col. 5, lines 29-32 and Fig. 2) and more than one marking sections that are arranged between the first layer and the second layer (radiopaque marker, col. 5, lines 43-50) and that are adapted to be read making use of X-rays (since the marking sections are

radiopaque). The first and second layers of Stone et al. are opaque because the materials of the layer are polymeric materials that are not disclosed as transparent (any layer that is not transparent has some degree of opacity). Since the marking sections (radiopaque marker, col. 5, lines 43-50) are adapted to be read making use of X-rays (since the marking sections are radiopaque), at least one marking section can be read when the hose has been divided into sections. The layers of Stone et al. meet the structural limitation recited by "extruded" because the recitation "extruded", when used to describe layers, does not recite any additional structure over that recited by "layer".

The recitations "constructed to allow… during manufacturing of the house [sic]" (lines 1-3) and "to determine the characteristic… during manufacturing of the hose" (lines 10-12) are intended use phrases that have not been given patentable weight, since a recitation with respect to the manner in which a claimed article is intended to be employed does not differentiate the claimed article from a prior art article satisfying the claimed structural limitations.

The recitation "fuel hose for a motor vehicle" is an intended use phrase that has not been given patentable weight, since a recitation with respect to the manner in which a claimed article is intended to be employed does not differentiate the claimed article from a prior art article satisfying the claimed structural limitations.

The recitation "each marking section comprising more than one letter and/or more than one number" is a printed matter limitation that has not been given patentable weight based upon the guidelines set forth in MPEP 2112.01 III:

III. PRODUCT CLAIMS - NONFUNCTIONAL PRINTED MATTER DOES NOT DISTINGUISH CLAIMED PRODUCT FROM OTHERWISE

IDENTICAL PRIOR ART PRODUCT

Where the only difference between a prior art product and a claimed product is printed matter that is not functionally related to the product, the content of the printed matter will not distinguish the claimed product from the prior art. *In re Ngai*, **>367 F.3d 1336, 1339, 70 USPQ2d 1862, 1864 (Fed. Cir. 2004)< (Claim at issue was a kit requiring instructions and a buffer agent. The Federal Circuit held that the claim was anticipated by a prior art reference that taught a kit that included instructions and a buffer agent, even though the content of the instructions differed.). See also *In re Gulack*, 703 F.2d 1381, 1385-86, 217 USPQ 401, 404 (Fed. Cir. 1983)("Where the printed matter is not functionally related to the substrate, the printed matter will not distinguish the invention from the prior art in terms of patentability .... [T]he critical question is whether there exists any new and unobvious functional relationship between the printed matter and the substrate.").

MPEP 2112.01 III.

The actual form of the markings does not define or contribute to the function of the device. The recitation "each marking section comprising more than one letter and/or more than one number" does not recite a new and unobvious functional relationship between the printed matter and the substrate; therefore, the printed matter recitation "each marking section comprising more than one letter and/or more than one number" bears no patentable weight. *In re Gulack*. Furthermore, the fact that the claims fail to specify which languages, which numbering systems and/or code equivalents (Morse code, Braille, bar, etc…), if any, fall within the scope of the recitation "each marking section comprising more than one letter and/or more than one

number" further supports the fact that the content/shape of the markings is not germane to the function of the device and therefore that these shape/content features bear no patentable weight.

Stone et al. teach that suitable materials for the markers are platinum and gold (col. 4, lines 51-57). Stone et al. teach that the marker bands enable visualization of the axial position of the sheath relative to other radiopaque structures (col. 5, lines 47-50).

Stone et al. fail to explicitly teach that the radiopaque markers are provided in a longitudinally spaced relationship with one another in a recurring mode of arrangement.

Carden, Jr. et al. disclose an implantable biomedical plastic strand (item 900, Fig. 11) that comprises bands of an X-ray absorbing material such as gold or platinum as radiopaque markers that are provided in a longitudinally spaced relationship with one another in a recurring mode of arrangement (Fig. 11 and col. 20, lines 30-35 and col. 21, lines 14-26). Therefore, since Stone et al. teach that the marker bands enable visualization of the axial position of the sheath relative to other radiopaque structures (col. 5, lines 47-50), one of ordinary skill in the art would have recognized to have applied the radiopaque bands of Stone et al. in a longitudinally spaced relationship with one another in a recurring mode of arrangement along the hose of Stone et al. in order to enable a healthcare worker to precisely visualize the location of the hose within the body and of particular portions of the hose along its length (relative to other radiopaque structures as taught by Stone et al.) since it is well known to provide a medical implant with radiopaque markers in a longitudinally spaced relationship with one another in a recurring mode of arrangement for visualization of the device as taught by Carden, Jr. et al.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have applied the radiopaque bands of Stone et al. in a longitudinally spaced

relationship with one another in a recurring mode of arrangement along the hose of Stone et al. in order to enable a healthcare worker to precisely visualize the location of the hose within the body and of particular portions of the hose along its length since it is well known to provide a medical implant with radiopaque markers in a longitudinally spaced relationship with one another in a recurring mode of arrangement for visualization of the device as taught by Carden, Jr. et al.

In regard to claim 24, Stone et al. and Carden, Jr. et al. teach the hose as discussed above in regard to claim 23. Stone et al. teach that the outer layer (item 42) is made of rubber (col. 5, lines 51-57 and 32-36: elastomer such as latex or silicone).

Stone et al. and Carden, Jr. et al. fail to teach that the inner layer is made of rubber.

Stone et al., however, disclose that the inner layer is made from a material that is relatively inelastic (compared with the material of the outer layer), and does not require that the material is "substantially noncompliant at typical balloon inflation pressures": this is a preferred embodiment (col. 5, line 65-col. 6, line 6). Therefore, one of ordinary skill in the art would have recognized to have used a rubber (elastic material) that is less elastic than the material of the outer layer of the hose taught by Stone et al. and Carden, Jr. et al. since elastic material is a well known material for use in hoses in the art as taught by Stone et al. and since a material that is less elastic than the material of the outer layer should be used as the material of the inner layer of the hose of Stone et al. as taught by Stone et al.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have used a rubber (elastic material) that is less elastic than the material of the outer layer of the hose taught by Stone et al. and Carden, Jr. et al. since elastic material is a well known material for use in hoses in the art as taught by Stone et al. and since a material that is less

elastic than the material of the outer layer should be used as the material of the inner layer of the hose of Stone et al. as taught by Stone et al.

In regard to claims 25-27, Stone et al. and Carden, Jr. et al. teach the hose as discussed above in regard to independent claims 1, 2 and 23, respectively. The hose taught by Stone et al. and Carden, Jr. et al. comprises an inner bore having a diameter sufficient to supply fuel to an engine of a motor vehicle, because the hose comprises an inner bore through which a liquid such as fuel can flow (so the diameter of the inner bore of the hose is therefore sufficient to supply fuel to an engine of a motor vehicle).

6. Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Stone et al. in view of Carden, Jr. et al. and in further view of Hostettler et al.

Stone et al. and Carden, Jr. et al. teach the hose as discussed above in regard to claim 4.

Stone et al. teach that the outer later, item 42, is formed from a wide variety of elastic materials (col. 5, lines 51-57).

Stone et al. and Carden, Jr. et al. fail to explicitly teach that the rubber is an ethylene acrylate rubber.

Hostettler et al., however, disclose that ethylene/alkyl acrylate copolymer rubbers are a suitable material for use in catheters (col. 9, lines 6-13). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have used the ethylene/alkyl acrylate copolymer rubber taught by Hostettler et al. as the elastic material of the two outermost layers of the hose taught by Stone et al. and Carden, Jr. et al. since ethylene/alkyl

acrylate copolymer rubber is a well known material for use in catheters as taught by Hostettler et al.

7. Claims 6 and 11-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Stone et al. in view of Carden, Jr. et al. and in further view of Shu.

Stone et al. and Carden, Jr. et al. teach the hose as discussed above.

In regard to claim 6, Stone et al. and Carden, Jr. et al. fail to explicitly teach that the radiopaque markers are formed by an ink.Shu, however, disclose a balloon catheter comprising radiopaque ink as a radiopaque marker or markers for tracking the exact location of the balloon catheter inside a patient (col. 9, line 61-col. 10, line 11). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have used a radiopaque ink as the radiopaque marker or markers of the hose taught by Stone et al. and Carden, Jr. et al. since radiopaque ink is a well known radiopaque marker for balloon catheter devices as taught by Shu.

In regard to claims 11-13, Stone et al., Carden, Jr. et al. and Shu teach the hose as discussed above. The recitations "the ink has been applied to the hose by means of a printer", and "ink-jet printer" (claim 12) and "tampon printer" (claim 13), have been given little patentable weight since recitation of an item that is used to "appl[y]" a component of a claimed article to a substrate of the claimed article (in regard to claim 11, the inner layer among the two claimed layers corresponds to the substrate of the claimed article) does recite any structural, compositional or any other type of limitation regarding the claimed article itself. Claim 11 positively recites a hose (that comprises ink), not a combination of the hose and a printer.

While Stone et al. and Shu fail to explicitly teach that the ink is applicable to the hose by means of a printer, Carden, Jr. et al. disclose an implantable biomedical plastic strand (item 900, Fig. 11) that comprises bands of radiopaque ink that are printed onto the plastic strand via inkjet printing technology (col. 20, lines 30-35 and col. 21, lines 14-23). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have printed radiopaque ink onto the hose taught by Stone et al., Carden, Jr. et al. and Shu via an inkjet printer since it is well known to print radiopaque ink onto a medical device via an inkjet printer as taught by Carden, Jr. et al.

8. Claims 7 and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Stone et al. in view of Carden, Jr. et al. and in further view of Shu and in further view of Kelderman et al.

Stone et al., Carden, Jr. et al. and Shu teach the hose as discussed above.

Stone et al., Carden, Jr. et al. and Shu fail to explicitly teach that the ink contains an iodine compound and that the ink contains potassium iodide.

Carden, Jr. et al., however, disclose an implantable biomedical plastic strand (item 900, Fig. 11) that comprises bands of radiopaque ink that are printed onto the plastic strand via inkjet printing technology (col. 20, lines 30-35 and col. 21, lines 14-23). Furthermore, Kelderman et al. teach an inkjet ink that comprises potassium iodide as a dye (KI, an iodine compound, col. 7, lines 59-65 and col. 1, line 61-col. 2, line 8). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have printed radiopaque ink onto the hose taught by Stone et al., Carden, Jr. et al. and Shu via inkjet printing technology since it is

well known to print radiopaque ink onto a medical device via inkjet printing technology as taught by Carden, Jr. et al. and to have used an inkjet ink comprising potassium iodide as the ink since potassium iodide is a well known dye for use in inkjet ink as taught by Kelderman et al.

9. Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Stone et al. in view of Carden, Jr. et al. and in further view of Shu and in further view of Kelderman et al. and in further view of Carroll.

Stone et al., Carden, Jr. et al., Shu and Kelderman et al. teach the hose as discussed above.

Stone et al., Carden, Jr. et al., Shu and Kelderman et al. fail to explicitly teach that the ink contains an iodine compound and that the ink contains iopamidole.

Carden, Jr. et al., however, disclose an implantable biomedical plastic strand (item 900, Fig. 11) for the treatment of tumors (col. 1, lines 7-9 and 35-47) that comprises bands of radiopaque ink that are printed onto the plastic strand via inkjet printing technology (col. 20, lines 30-35 and col. 21, lines 14-23). Furthermore, Carroll discloses that ethanolamine oleate iopamidole is used in the preparation of a tumor for treatment (col. 5, line 58-col. 6, line 2 and col. 3, line 66-col. 4, line 18). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have printed radiopaque ink onto the hose taught by Stone et al., Carden, Jr. et al., Shu and Kelderman et al. via inkjet printing technology since it is well known to print radiopaque ink onto a medical device via inkjet printing technology as taught by Carden, Jr. et al. and to have used an inkjet ink comprising ethanolamine oleate iopamidole as the ink so that the ink may contribute to the preparation of a tumor for treatment as

taught by Carroll when the device taught by Stone et al., Carden, Jr. et al., Shu and Kelderman et al. is used for the treatment of a tumor.

10. Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over Stone et al. in view of Carden, Jr. et al. and in further view of Shu and in further view of Gundlach et al.

Stone et al., Carden, Jr. et al. and Shu teach the hose as discussed above.

Stone et al., Carden, Jr. et al. and Shu fail to explicitly teach that the ink contains an iodine compound and that the ink contains potassium brodide.

Carden, Jr. et al., however, disclose an implantable biomedical plastic strand (item 900, Fig. 11) that comprises bands of radiopaque ink that are printed onto the plastic strand via inkjet printing technology (col. 20, lines 30-35 and col. 21, lines 14-23). Furthermore, Gundlach et al. disclose an inkjet ink that comprises potassium bromide (col. 38, lines 1-42 and col. 1, lines 5-9) as a salt (col. 17, line 66-col. 18, line 1 and col. 19, lines 17-23) that improves the solubility or stability of the dye in the ink vehicle (col. 20, lines 20-27). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have printed radiopaque ink onto the hose taught by Stone et al., Carden, Jr. et al. and Shu via inkjet printing technology since it is well known to print radiopaque ink onto a medical device via inkjet printing technology as taught by Carden, Jr. et al. and to have used an inkjet ink comprising potassium bromide as the ink since potassium bromide is a well known additive to inkjet ink for improving the solubility or stability of the dye in the ink vehicle as taught by Gundlach et al.

Response to Arguments

11. Applicant's arguments on pages 9-13 and 15-17 of Amdt. D regarding the 35 U.S.C. 103 rejection of claims 1, 4 and 23 have been fully considered but are not persuasive. Examiner maintains the rejection of record for the reasons of record, including the reasons provided in the "Response to Arguments" section of the previous Office Action mailed November 21, 2007, and including the reasons of record in regard to the printed matter limitations.

12. Applicant's arguments on pages 13-15 and 17-18 of Amdt. D regarding all other 35 U.S.C. 103 rejections depend entirely upon Applicant's arguments regarding the 35 U.S.C. 103 rejection of claims 1, 4 and 23, which have been addressed above.

Conclusion

13. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Walter B. Aughenbaugh whose telephone number is (571) 272-1488. While the examiner sets his work schedule under the Increased Flexitime Policy, he can normally be reached on Monday-Friday from 8:45am to 5:15pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Rena Dye, can be reached on (571) 272-3186. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Walter B Aughenbaugh /
Examiner, Art Unit 1794

6/08/08